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Kang Soo Seo

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CHIO, TAT CHI

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/642,693	SEO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	TAT CHI CHIO	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3-7 and 15-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-7 and 15-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see applicant's remark, filed 1/31/2008, with respect to claims 1, 3-7, and 15-31 have been fully considered and are persuasive. The claim rejections – 35 USC 103 of the previous office action has been withdrawn.
2. Applicant's arguments regarding to claim rejections 35 U.S.C. 101 filed 1/31/2008 have been fully considered but they are not persuasive.

Applicant argues that claims 1, 3-7, and 15-17 constitute statutory subject matter because the computer readable medium includes a data structure having a management data area, which provides management information for managing reproduction of video data recorded on the computer readable medium.

In response, the examiner respectfully disagrees. Claims 1, 3-7, and 15-17 are nonfunctional descriptive material because the data area and management area recited in these claims are mere arrangement of data. MPEP 2106.01 states that "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works, and a compilation or mere arrangement of data.

***Claim Rejections - 35 USC § 101***

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1, 3-7, and 15-17 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Nonfunctional descriptive material that does not constitute a statutory process, machine, manufacture, or composition of matter and should be rejected under 35 U.S.C. 101. Certain types of descriptive material, such as music, literature, art, photographs, and mere arrangements or compilations of facts or data, without any functional interrelationship is not a process, machine, manufacture, or composition of matter. USPTO personnel should be prudent in applying the foregoing guidance. Nonfunctional descriptive material may be claimed in combination with other functional descriptive multi-media material on a computer-readable medium to provide the necessary functional and structural interrelationship to satisfy the requirements of 35 U.S.C. 101. The presence of the claimed nonfunctional descriptive material is not necessarily determinative of nonstatutory subject matter. For example, a computer that recognizes a particular grouping or sequence of musical notes read from memory and thereafter causes another defined series of notes to be played, requires a functional interrelationship among that data and the computing processes performed when utilizing that data. As such, a claim to that computer is statutory subject matter because it implements a statutory process.

Claims 1, 3-7, and 15-17 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claims 1, 3-7, and 15-17 recite a computer readable medium which does not impart functionality to a computer or computing device, and is thus considered nonfunctional descriptive material. Such nonfunctional descriptive material, in the absence of a functional interrelationship with a computer, does not constitute a statutory process, machine, manufacture or composition of matter and is thus non-statutory per se.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3-7, and 16-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (5,884,004) in view of Kaneshige et al. (5,913,010).

**Consider claim 1**, Sato et al. teach a computer-readable medium having a data structure for managing reproduction of at least multiple reproduction path video data recorded on the computer-readable medium, comprising: one or more management areas storing path change information, the path change information indicating where changes in reproducing at least one of the reproduction paths of video data are permitted (Fig. 16 and Fig. 20); and wherein the path change information includes at least one flag, each flag associated with an entry point and identifying whether a change in reproduction path is permitted in relation to the entry point (Fig. 20), but does not explicitly teach the one or more management area being separate from a data area storing the video data; and wherein the path change information includes at least one entry point map associated with each reproduction path, each entry point map identifying entry points in the video data for the associated reproduction path.

Kaneshige et al. teach the computer-readable medium comprising the one or more management area being separate from a data area storing the video data; and wherein the path change information includes at least one entry point map associated with each reproduction path, each entry point map identifying entry points in the video data for the associated reproduction path (col. 15, lines 29-31, Fig. 16, and Fig. 26). Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to incorporate at least one entry point map to efficiently organize the control data in the recording medium.

**Consider claim 3**, Sato et al. teach the computer-readable medium, wherein flags permitting a change in a same associated reproduction path define one or more units of video data (Fig. 20).

**Consider claim 4**, Sato et al. teach the computer-readable medium of claim 3, further comprising: a data area having at least the video data recorded therein, and at least a portion of the video data being multiplexed on a unit of video data basis (col. 10, lines 16-20).

**Consider claim 5**, Sato et al. teach the computer-readable medium, wherein the reproduction paths of video data are different camera angles of video data (Fig. 5).

**Consider claim 6**, Sato et al. teach the computer-readable medium, wherein each unit of video data starts with an I-picture (Fig. 78 and col. 51, lines 60-65).

**Consider claim 7**, Sato et al. teach the computer-readable medium, wherein each unit of video data starts with a closed group of pictures (GOP) (Fig. 78).

**Consider claim 16**, Sato et al. teach the computer-readable medium, wherein an active flag associated with an entry point indicates that changing reproduction paths is permitted after reproducing the entry point having the associated active flag (the SACF indicates that changing reproduction paths is permitted after reproducing the start address of an interleaved unit, col. 18, lines 39-43, Fig. 20 and Fig. 70).

**Consider claim 17**, Sato et al. teach the computer-readable medium, wherein an active flag associated with an entry point indicates that changing reproduction paths is

permitted before reproducing the entry point having the associated active flag (the SACF indicates that changing reproduction paths is permitted before reproducing the end address of an interleaved unit, col. 18, lines 39-43, Fig. 20 and Fig. 70).

**Consider claim 18**, Sato et al. and Kaneshige et al. teach a method of recording a data structure (Fig. 2 of Sato et al.) for managing reproduction of at least multiple reproduction path video data on a recording medium, comprising: recording path change information in one or more management areas of the recording medium, the path change information indicating where changes in reproducing at least one of the reproduction paths of video data are permitted (Fig. 16 and Fig. 20 of Sato et al.), the one or more management areas being separate from a data area storing the video data; and wherein the path change information includes at least one entry point map associated with each reproduction path, entry point map identifying entry points in the video data for the associated reproduction path and including at least one flag, each flag associated with entry point and identifying whether a change in reproduction path is permitted in relation to the entry point (Fig. 20 of Sato et al. and col. 15, lines 29-31, Fig. 16, and Fig. 26 of Kaneshige et al.).

**Consider claim 19**, Sato et al. and Kaneshige et al teach a method of reproducing a data structure (Fig. 3) for managing reproduction of at least multiple reproduction path video data recorded on a recording medium, comprising: reproducing path change information from one or more management areas of the recording medium, the path change information indicating where changes in reproducing at least one of the

reproduction paths of video data are permitted (Fig. 16 and Fig. 20), the one or more management areas being separate from a data area storing the video data; and wherein the path change information includes at least one entry point map associated with each reproduction path, entry point map identifying entry points in the video data for the associated reproduction path and including at least one flag, each flag associated with entry point and identifying whether a change in reproduction path is permitted in relation to the entry point (Fig. 20 of Sato et al. and col. 15, lines 29-31, Fig. 16, and Fig. 26 of Kaneshige et al.).

**Consider claim 20**, Sato et al. and Kaneshige et al teach an apparatus for recording a data structure for managing reproduction of at least multiple reproduction path video data on a recording medium, comprising: an optical recording device configured to record data on the recording medium (1200 of Fig. 2); an encoder configured to encode at least multiple reproduction path video data (300 of Fig. 2); and a controller configured to control the optical recording device to record the encoded multiple reproduction path video data on the recording medium (200 of Fig. 2), the controller configured to control the optical recording device to record path change information in one or more management areas of the recording medium (200 of Fig. 2), the path change information indicating where changes in reproducing at least one of the reproduction paths of video data are permitted (Fig. 16 and Fig. 20), the one or more management areas being separate from a data area storing the video data; and wherein the path change information includes at least one entry point map associated with each



reproduction path, entry point map identifying entry points in the video data for the associated reproduction path and including at least one flag, each flag associated with entry point and identifying whether a change in reproduction path is permitted in relation to the entry point (Fig. 20 of Sato et al. and col. 15, lines 29-31, Fig. 16, and Fig. 26 of Kaneshige et al.).

**Consider claim 21**, Sato et al. teach and Kaneshige et al an apparatus for reproducing a data structure for managing reproduction of at least multiple reproduction path video data recorded on a recording medium, comprising: an optical reproducing device configured to reproduce data recorded on the recording medium (2004 of Fig. 3); a controller (2300 of Fig. 3) for configured to control the optical reproducing device to reproduce path change information from one or more management areas of the recording medium, the path change information indicating where changes in reproducing at least one of the reproduction paths of video data are permitted (Fig. 16 and Fig. 20), the one or more management areas being separate from a data area storing the video data; and wherein the path change information includes at least one entry point map associated with each reproduction path, entry point map identifying entry points in the video data for the associated reproduction path and including at least one flag, each flag associated with entry point and identifying whether a change in reproduction path is permitted in relation to the entry point (Fig. 20 of Sato et al. and col. 15, lines 29-31, Fig. 16, and Fig. 26 of Kaneshige et al.).

**Consider claim 22**, Sato et al. teach the method wherein flags permitting a change in a same associated reproduction path define one or more units of video (Fig. 20).

**Consider claim 23**, Sato et al. teach the method wherein at least one portion of the video data is recorded in a data area with being multiplexed on a unit of video data basis (col. 10, lines 16-20).

**Consider claim 24**, Sato et al. teach the method, wherein the reproduction paths of a video are different camera angles of video data (Fig. 5).

**Consider claim 25**, Sato et al. teach the method wherein flags permitting a change in a same associated reproduction path define one or more units of video (Fig. 20).

**Consider claim 26**, Sato et al. teach the method wherein at least one portion of the video data is recorded in a data area with being multiplexed on a unit of video data basis (col. 10, lines 16-20).

**Consider claim 27**, Sato et al. teach the method, wherein the reproduction paths of a video are different camera angles of video data (Fig. 5).

**Consider claim 28**, Sato et al. teach the apparatus wherein flags permitting a change in a same associated reproduction path define one or more units of video (Fig. 20).

**Consider claim 29**, Sato et al. teach the apparatus, wherein an active flag associated with an entry point indicates that changing reproduction paths is permitted after reproducing the entry point having the associated active flag (the

SACF indicates that changing reproduction paths is permitted after reproducing the start address of an interleaved unit, col. 18, lines 39-43, Fig. 20 and Fig. 70).

**Consider claim 30**, Sato et al. teach the apparatus wherein flags permitting a change in a same associated reproduction path define one or more units of video (Fig. 20).

**Consider claim 31**, Sato et al. teach the apparatus, wherein an active flag associated with an entry point indicates that changing reproduction paths is permitted after reproducing the entry point having the associated active flag (the SACF indicates that changing reproduction paths is permitted after reproducing the start address of an interleaved unit, col. 18, lines 39-43, Fig. 20 and Fig. 70).

1. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (5,884,004) in view of Kaneshige et al. (5,913,010) as applied to claims 1 and 3 above, and further in view of Sawabe et al. (6,031,962).

**Consider claim 15**, Sato et al. and Kaneshige et al. teach all the limitations in claims 1 and 3 but do not explicitly teach the computer-readable medium wherein the entry point maps are aligned in time.

Sawabe et al. further teach the computer-readable medium wherein the entry point maps are aligned in time (Fig. 6 and Fig. 7). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the known technique in organizing the entry point maps that are aligned in time to a similar computer-readable medium to improve the structure of the computer-readable medium.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAT CHI CHIO whose telephone number is (571)272-9563. The examiner can normally be reached on Monday - Thursday 8:30 AM-6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on (571)-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. C. C./  
Examiner, Art Unit 2621

/Thai Tran/  
Supervisory Patent Examiner, Art Unit 2621